

Abstract of the Disclosure

A method of making a higher olefin product from a C_4^+ fraction separated from the hydrocarbon product produced by an oxygenate to olefin reaction unit. The C_4^+ fraction primarily contains butenes which may be directed to a higher olefin reaction unit without removing isobutenes, butanes, and/or butadiene. The C_4^+ fraction is particularly well suited for the production of higher olefins because of its high olefin content, low branching number, and low contaminant levels. The invention is also directed to an olefin product composition that is produced by contacting the C_4^+ fraction with an oligomerization catalyst. The olefin composition is characterized by a relatively high octene content, and octene with a branching number less than 1.4.